

Name:

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## a closer look at *Plankton*

### Station 1: It pays to be small!

Phytoplankton use sunlight to photosynthesize their food. The greater the surface area they have to collect sunlight, the more food they can make. Therefore, the greater the ratio of surface area to volume they have, the more successful they are. As an object gets smaller, the ratio of surface area to volume gets bigger. Let's prove this.

Instructions: Roll the green clay into a perfect sphere. Examine its surface area and consider how much space it takes up (volume). Cut the ball exactly down the middle with the knife.

1. How has the volume changed?
2. Do you have: half of the surface area, more than half, or less than half?

As plankton gets smaller, it will continue to have a larger ratio of surface area to volume...very handy for an autotrophy. Why can't they get any smaller?

### Station 2: Brine Shrimp under dissecting microscope

1. What physical adaptations allow the brine shrimp to survive? (focus on motility and eating)

### Station 3: Diagramming a plankton

1. Drawing is an essential skill for the scientist. Diagrams do not have to be beautiful, but they do need to be detailed and accurate. Draw the brine shrimp in the space below.